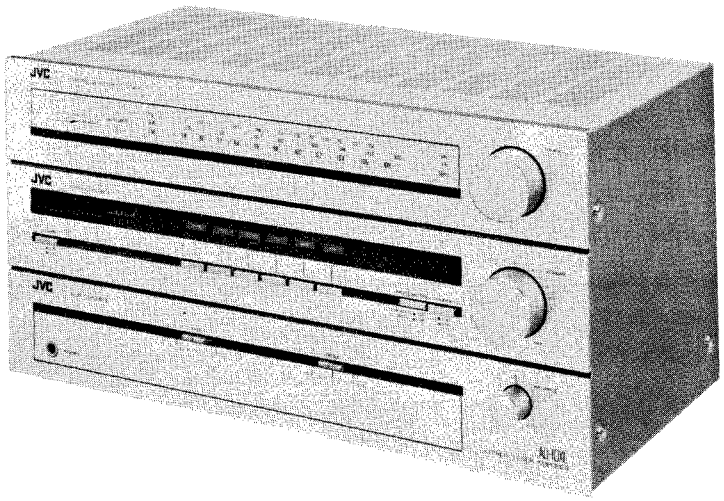
JVC

SERVICE MANUAL

MODEL
AU-10XL

STEREO TUNER AMPLIFIER



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Warning:
When replacing the parts marked with ⚠ , be sure to use the designated parts to ensure safety.

1. Specifications

AMPLIFIER SECTION

		IHF	DIN 45 500
RMS Power	:	25 watts per channel, min. RMS. both channels driven, into 8 ohms from 30 Hz to 20 kHz, with no more than 0.08 % total harmonic distortion.	
		27 watts (30 watts) per channel, min. RMS. both channels driven, into 8 ohms (4 ohms) at 1 kHz with no more than 0.08 % (0.2 %) total harmonic distortion.	
Music Power	:	—	30 W/ch. at 8 ohms
		—	45 W/ch. at 4 ohms
Load Impedance	:	4 ohms – 16 ohms	
Damping Factor	:	30 at 8 ohms	
Input Sensitivity/Impedance			
PHONO	:	3 mV/47 kohms	
AUX, TAPE	:	200 mV/40 kohms	
Recording Output/ Load Impedance			
TAPE REC	:	120 mV/5 kohms	
Phono Overload	:	120 mV at 1 kHz (T.H.D. 0.1 %)	
Frequency Response			
PHONO (RIAA Equalization)	:	20 Hz – 20 kHz, +0.5 dB, -1.5 dB	
AUX, TAPE	:	15 Hz – 40 kHz, +1.5 dB, -1.5 dB	
Tone Control			
Bass	:	±8 dB at 100 Hz	
Treble	:	±8 dB at 10 kHz	
Loudness Control (Volume control at -40 dB position)	:	+6 dB at 100 Hz +4 dB at 10 kHz	
Hum and Noise	:	(Weighted by IHF "A" network)	(To 50 mW power output weighted)
PHONO	:	70 dB (Short circuit 3.0 mV input) 83 dB (Short circuit 10 mV input) 70 dB (New IHF)	60 dB
AUX, TAPE	:	96 dB (Short circuit) 75 dB (New IHF)	60 dB

FM TUNER SECTION

		IHF	DIN 45 500
Tuning Range	:	87.5 MHz – 108.0 MHz	87.5 MHz – 108.0 MHz
Usable Sensitivity	:	Mono 10.3 dBf	—
		Mono 0.9 μV/75 Ω	
		Mono 1.8 μV/300 Ω	
50 dB Quieting Sensitivity	:	Mono 14.8 dBf (3.0 μV/300 Ω)	—
		Stereo 38.3 dBf (45 μV/300 Ω)	—
S/N 46 dB Stereo Sensitivity	:	—	Stereo 23 μV/75 Ω
		—	Stereo 46 μV/300 Ω
Signal to Noise Ratio	:	Mono 76 dB	Mono 70 dB
		Stereo 68 dB	Stereo 62 dB
Total Harmonic Distortion 1 kHz	:	Mono 0.2 %	Mono 0.15 %
		Stereo 0.5 %	Stereo 0.40 %
Frequency Response	:	30 Hz – 15 kHz, +0.5 dB, -3.0 dB	
Capture Ratio	:	2.0 dB	
Alternate Channel Selectivity	:	60 dB, ±400 kHz	55 dB, ±300 kHz
Image Response Ratio	:	55 dB at 98 MHz	
IF Response Ratio	:	86 dB at 98 MHz	
Stereo Separation	:	35 dB at 1 kHz	

AM TUNER SECTION

MW

Tuning Range	:	525 kHz – 1605 kHz
Sensitivity	:	30 μV 300 μV/m
Signal to Noise Ratio	:	50 dB at 100 mV/m
Selectivity	:	40 dB, ±10 kHz 35 dB, ±9 kHz
Image Response Ratio	:	40 dB
IF Response Ratio	:	40 dB
Total Harmonic Distortion	:	0.5 % at 100 mV/m

LW

Tuning Range	:	150 kHz – 350 kHz
Sensitivity	:	200 μV 500 μV/m
Signal to Noise Ratio	:	50 dB at 100 mV/m
Selectivity	:	35 dB ±9 kHz
Image Response Ratio	:	40 dB
IF Response Ratio	:	40 dB
Total Harmonic Distortion	:	0.5 % at 100 mV/m

DIMENSIONS AND WEIGHT

Areas	Dimensions (mm)			Weight (kg)
	Height	Width	Depth	
AU-10XL	213 (8-3/8")	420 (16-1/2")	248 (9-3/4")	6.2 (13.7 lbs)

Design and specifications subject to change without notice.

Power Specifications

Areas	Line Voltage & Frequency	Power Consumption
Continental Europe	AC 220 V∿, 50 Hz	275 W
United Kingdom	AC 240 V∿, 50 Hz	275 W

2. Main Parts Location

2-(1) Front View

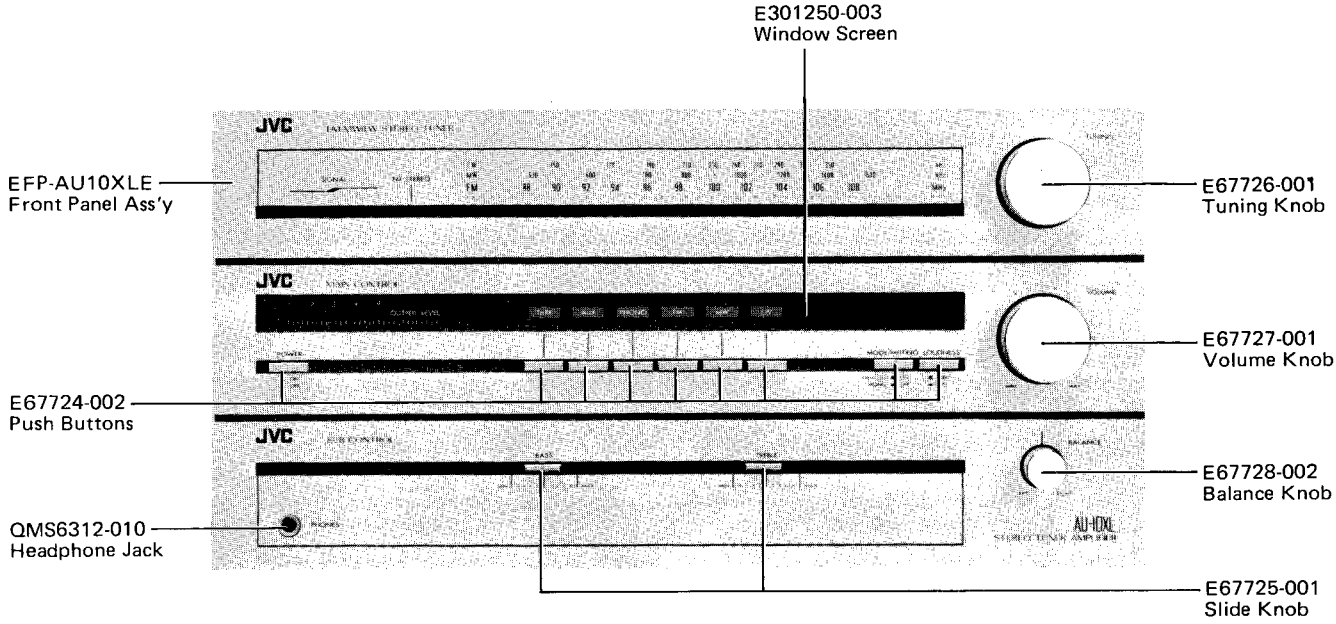


Fig. 1

2-(2) Rear View

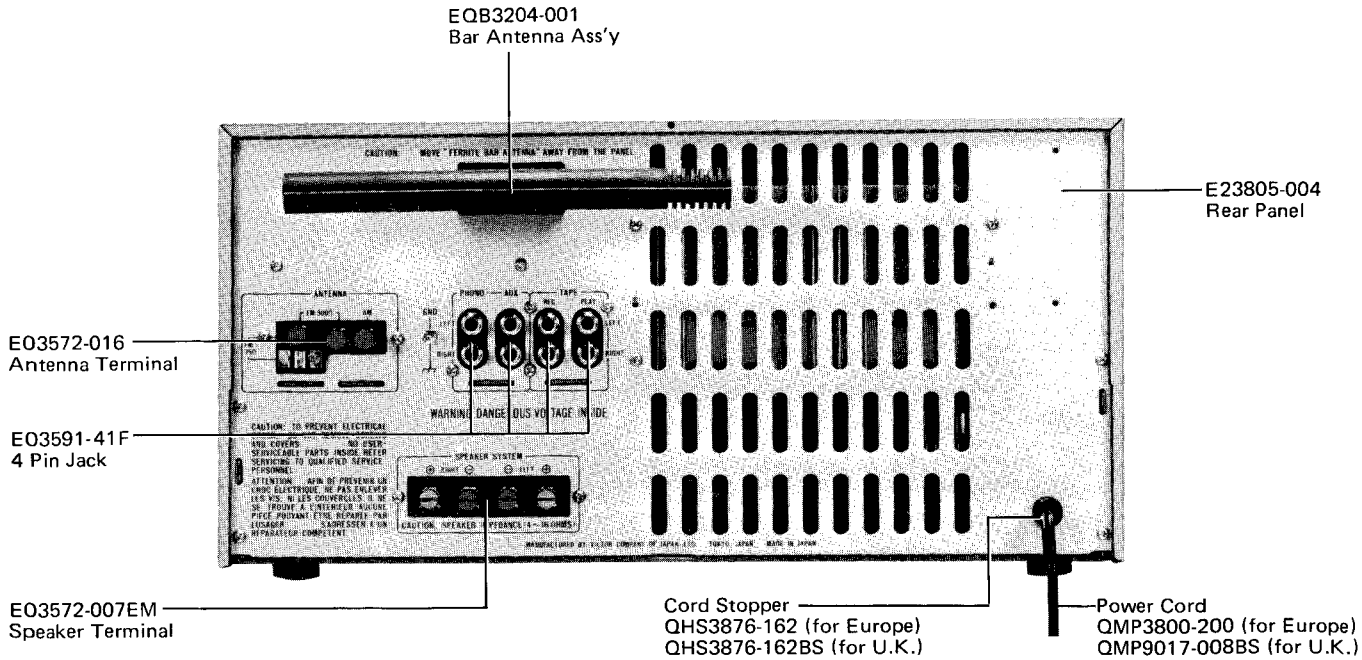


Fig. 2

2-(3) Top View

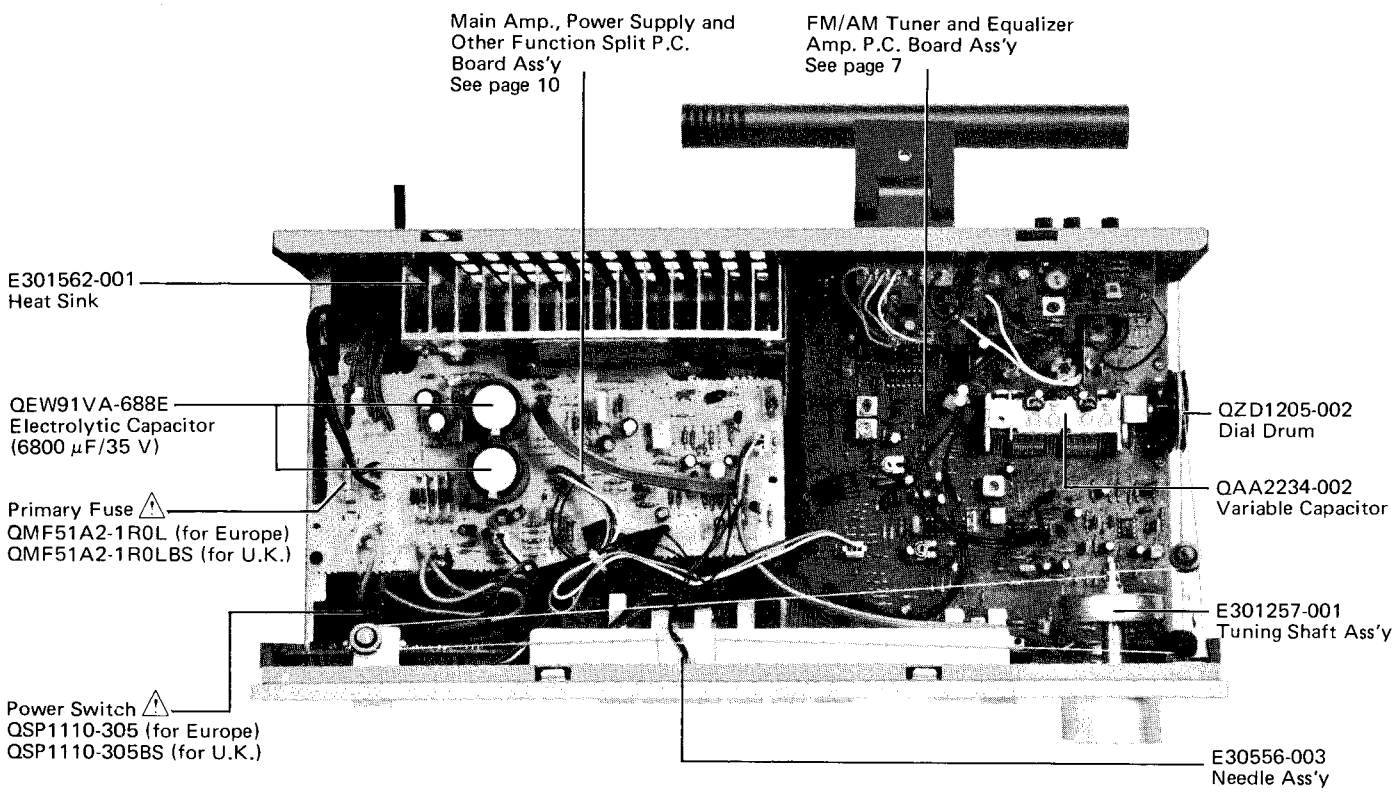

Main Amp., Power Supply and Other Function Split P.C. Board Ass'y See page 10
FM/AM Tuner and Equalizer Amp. P.C. Board Ass'y See page 7
E301562-001 Heat Sink
QEW91VA-688E Electrolytic Capacitor (6800 μF/35 V)
Primary Fuse ⚠ QMF51A2-1R0L (for Europe) QMF51A2-1R0LBS (for U.K.)
Power Switch ⚠ QSP1110-305 (for Europe) QSP1110-305BS (for U.K.)
QZD1205-002 Dial Drum
QAA2234-002 Variable Capacitor
E301257-001 Tuning Shaft Ass'y
E30556-003 Needle Ass'y

Fig. 3

3. Dial Stringing Procedures

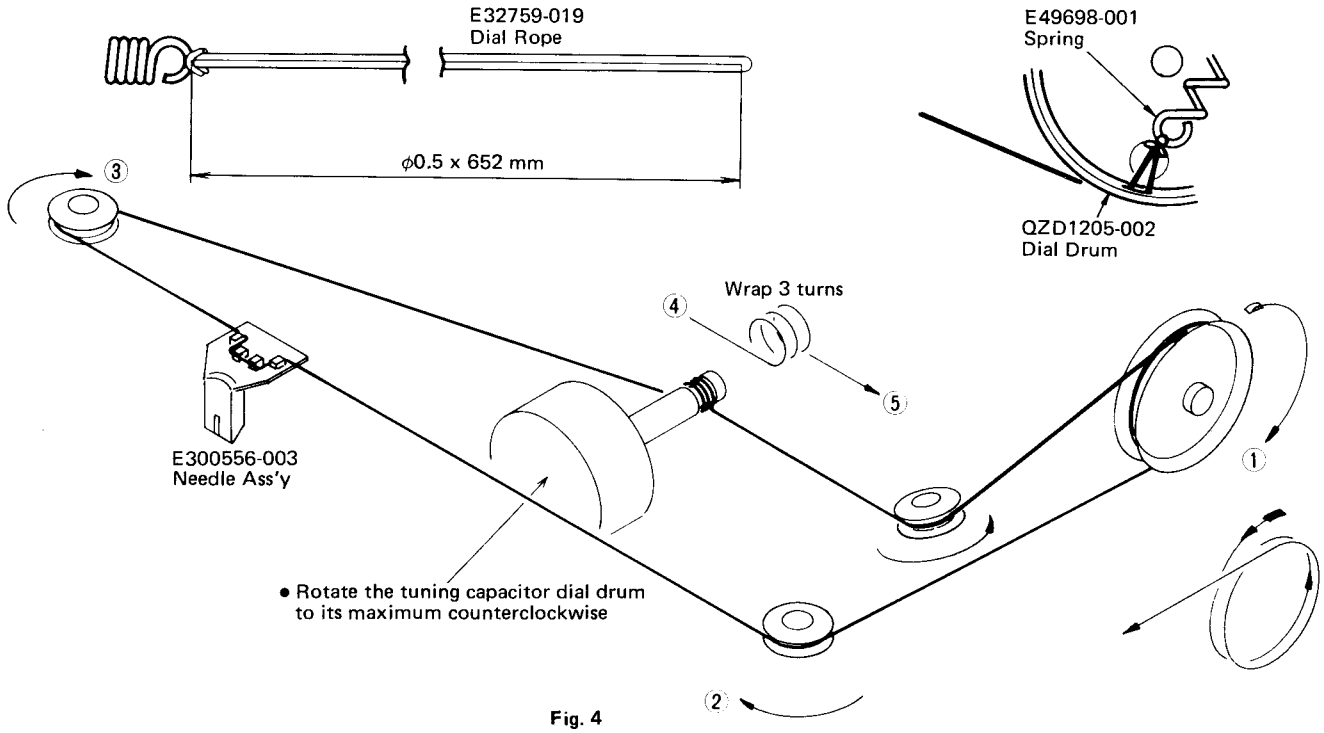


Fig. 4

4. FM/MW(LW) Tuner Alignment Procedures

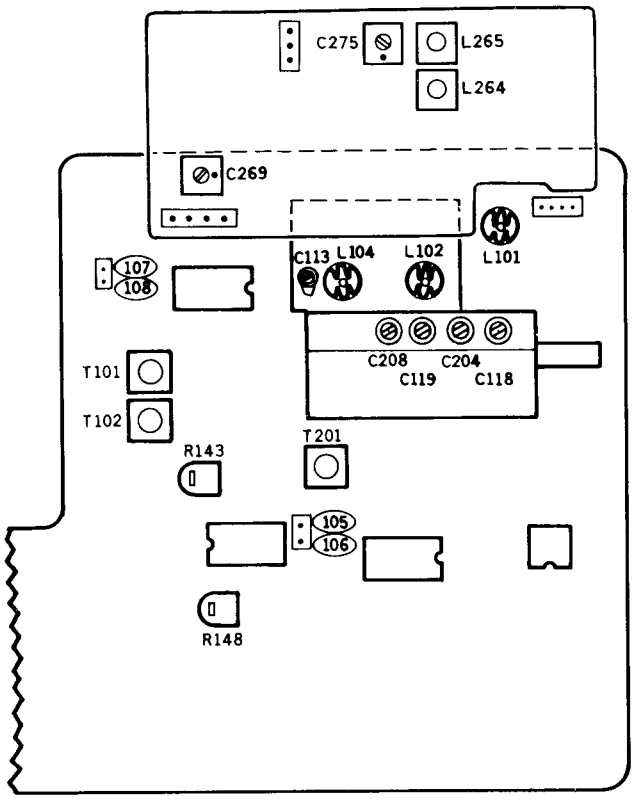


Fig. 5

4-(1) FM Section

Discriminator, Center Meter, Distortion and Signal Gain

1. Set to FM position.
2. Connect an RF generator, 1 kHz modulation and 75 kHz deviation, to the antenna terminals on the rear panel through a dummy antenna.
3. Connect an Oscilloscope, Distortion Meter, Center Meter and VTVM to the Rec. Out jacks on the rear panel.
4. Tune to a frequency where there is no broadcasting.
5. Adjust the core of T101 so that the Center Meter indicates the center position.
6. Set the RF generator to 98 MHz.
7. Set the dial pointer to 98 MHz.
8. Adjust the core of T102 so that the distortion is minimized at a value less than 0.4 %.

Tracking and Sensitivity

Low Frequency

1. Connect an RF generator the antenna terminals on the rear panel through a dummy antenna.
2. Set the RF generator to 88 MHz, with a modulation of 1 kHz and a deviation of 75 kHz to provide an input of 2 μV.
3. Connect a VTVM and an Oscilloscope to the Rec. Out jacks on the rear panel.
4. Set the dial pointer to 88 MHz.
5. Adjust the three coils L104, L102 and L101 in the tuning gang to maximize the output.

High Frequency

6. Set the RF generator to 108 MHz, with a modulation of 1 kHz and a deviation of 75 kHz, to provide an input of 2 μV.
7. Set the dial pointer to 108 MHz.
8. Adjust the FM trimmers C113, C119 and C118 in the tuning gang to maximize the output.
9. Repeat these high and low frequency adjustments alternately until maximum sensitivity is obtained.

Multiplex and Stereo Separation

Multiplex

1. Set the Stereo signal generator as follows: 400 Hz modulation frequency, 7.5 kHz deviation pilot, 67.5 kHz main and sub-carriers. Connect the output to an RF generator.
2. Connect an RF generator to the antenna terminals through a dummy antenna.
3. Connect a VTVM, an Oscilloscope and a Distortion Meter to the Rec. Out jacks on the rear panel.
4. Set the RF generator to 98 MHz and output of 1 mV.
5. Set the dial pointer to 98 MHz.
6. Connect the Frequency Counter to 19 kHz test point. (TP-105).
7. Switch off the pilot signal of Stereo Modulator.
8. Adjust R143 so that the frequency counter indicates 19 kHz (0 ~ -50 Hz).

Stereo Separation

9. Switch the selector of Stereo Modulator to left channel modulation.
10. Adjust R148 so that the output of right channel is minimized.
11. Switch the selector of the modulator to right channel modulation.
12. Adjust R148 so that the left channel is minimized.
13. Set R148 to an average, if the separation of left and right is different.

4-(2) MW(LW) Section

Note: ( ) for LW Alignment Procedures

Tracking and Sensitivity

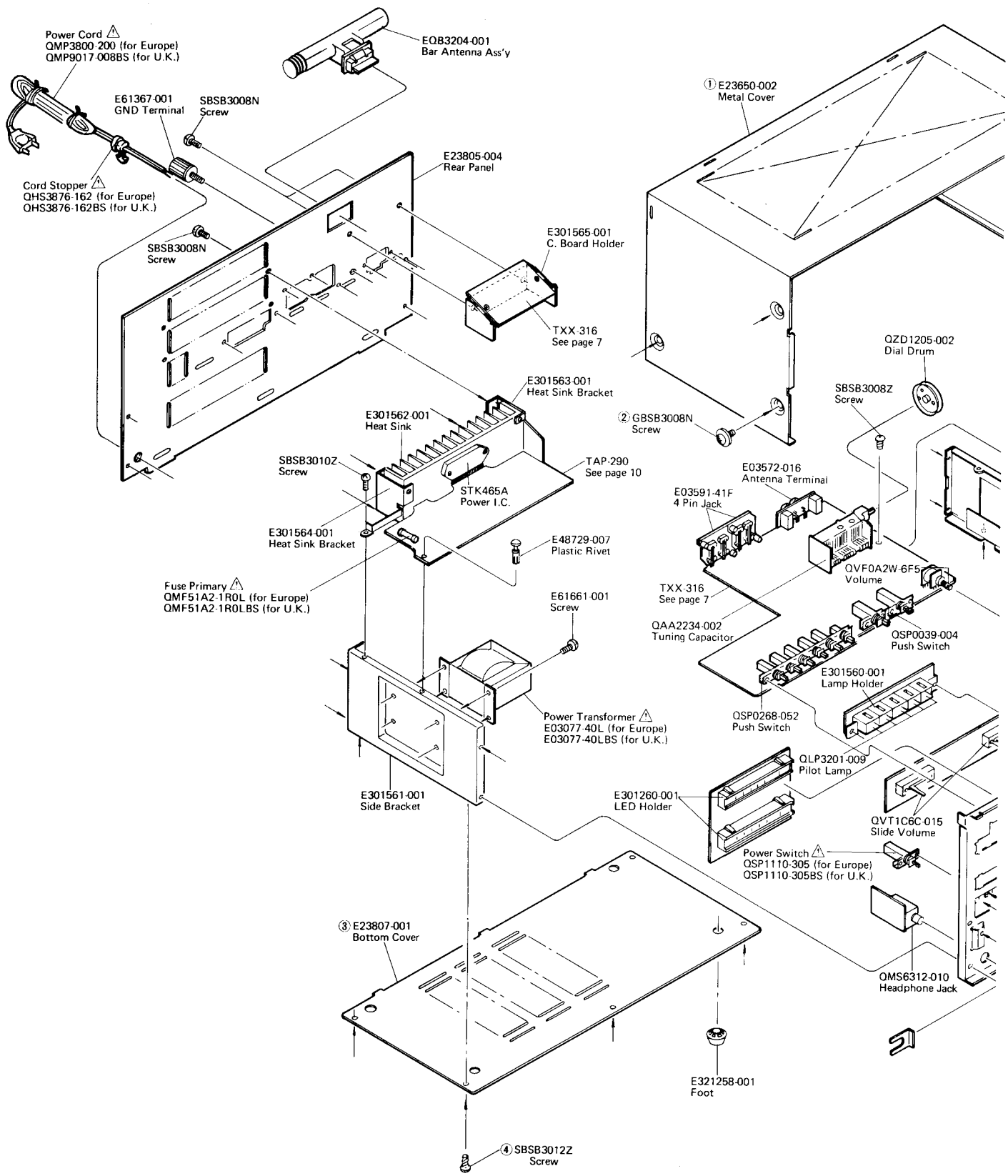
Low Frequency

1. Connect the RF generator to the antenna terminals on the rear panel, set this to 600 kHz (160 kHz) with 30 % modulation at 400 Hz.
2. Connect an AC VTVM and an oscilloscope to the Rec. out jacks on the rear panel.
3. Set the dial pointer to 600 kHz (160 kHz).
4. Adjust OSC coil L264 (L265) and the ferrite bar antenna core to maximize the output signal. Left ferrite bar is for MW (right ferrite bar is for LW).

High Frequency

5. Set the RF generator to 1400 kHz (350 kHz) with 30 % modulation at 400 Hz.
6. Set the dial pointer to 1400 kHz (350 kHz).
7. Adjust the trimmers C205 (C275) and C204 (C269) in the tuning gang so that the output signal is maximized.
8. Repeat these high and low frequencies adjustment procedures alternately until maximum sensitivity is obtained.

5. Exploded View and Part Numbers

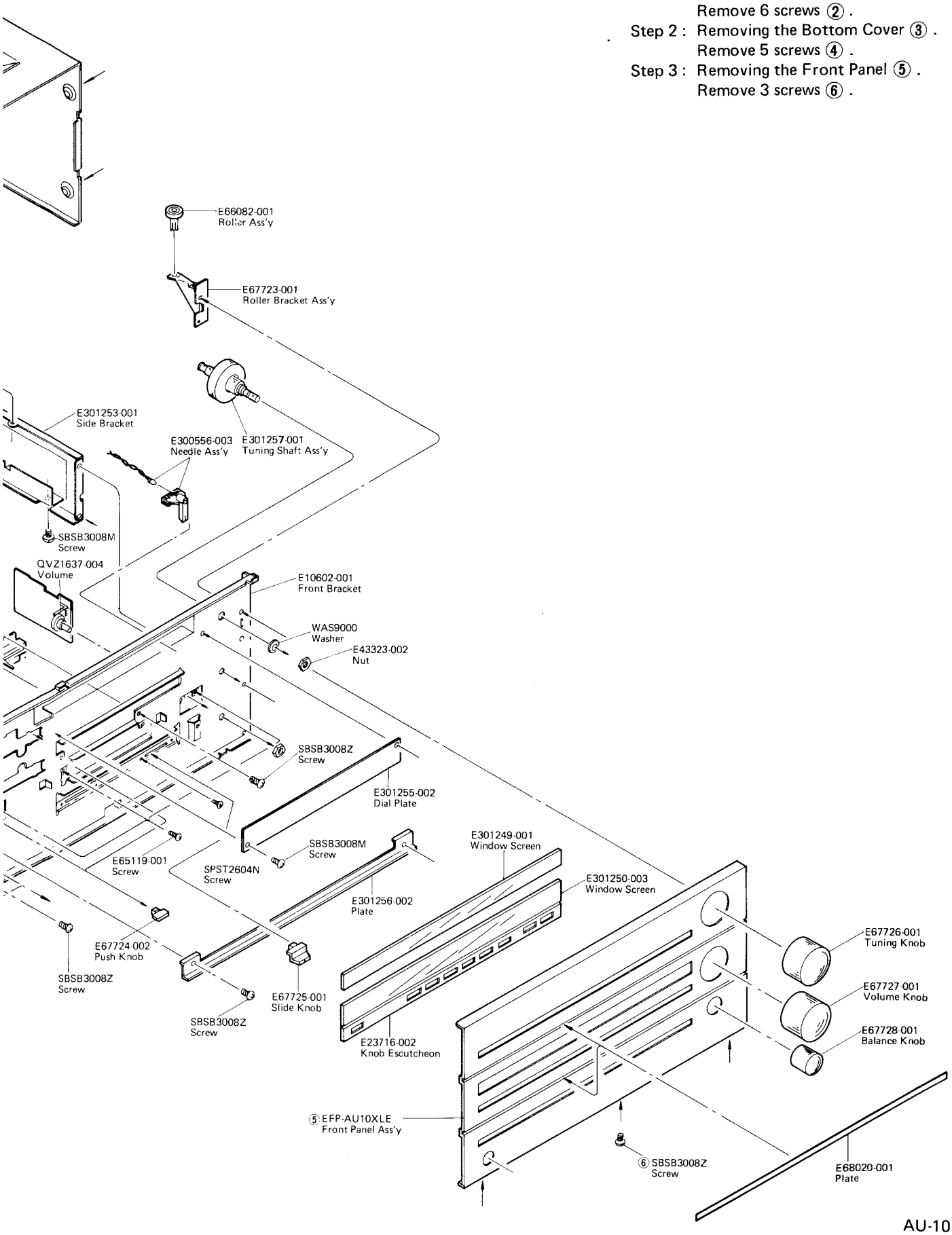


Removal Procedures

Step 1 : Removing the Metal Cover ① .
Remove 6 screws ② .

Step 2 : Removing the Bottom Cover ③ .
Remove 5 screws ④ .

Step 3 : Removing the Front Panel ⑤ .
Remove 3 screws ⑥ .



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6. Printed Circuit Board Ass'y and Parts List

6-(1) TXX-316 FM/AM Tuner and Equalizer Amp. P.C. Board Ass'y

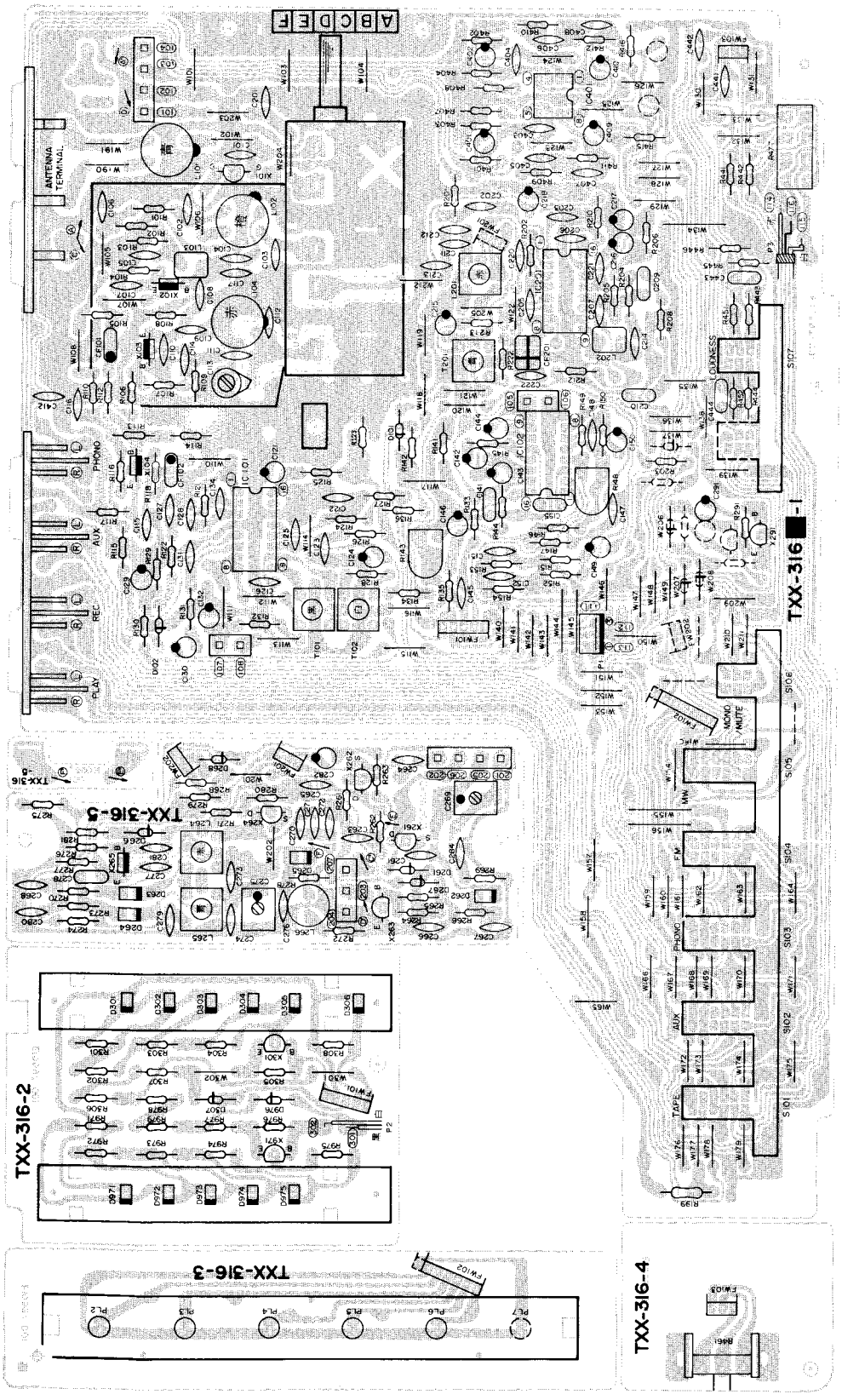


Fig. 7

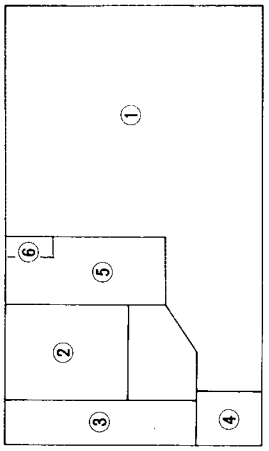


Fig. 8

P.C. Board Location

① TXX-316□-1: Tuner and Equalizer Amp. P.C. Board Ass'y
② TXX-316-2: Signal and Power Indicator P.C. Board Ass'y
③ TXX-316-3: Select Indicator Lamp P.C. Board Ass'y
④ TXX-316-4: Balance Volume P.C. Board Ass'y
⑤ TXX-316-5: MW/LW Converter P.C. Board Ass'y
⑥ TXX-316-6: Trimmer P.C. Board Ass'y

Note:
The symbols 赤, 黒, 白 on P.C. Board surface are for factory process only.

Transistors

Item No.	Part Number	Rating		Description	
		Pc	fT		Maker
X101	2SK168(E,F)	0.2 W		F.E.T.	Hitachi
X102	2SC535(B,C)	0.1 W	940 MHz	Silicon	"
X103	2SC461(B,C)	0.2 W	230 MHz	"	"
X104	2SC535(B,C)	0.1 W	940 MHz	"	"
X261	2SK105(F,H)	0.25 W		F.E.T.	NEC
X262	2SK105(F,H)	"		"	"
X263	2SC458(C,D)	0.2 W	230 MHz	Silicon	Hitachi
X264	2SK105(F,H)	0.25 W		F.E.T.	NEC
X265	2SC461(B,C)	0.2 W	230 MHz	Silicon	Hitachi
X291	2SC945A(P,Q)	0.25 W	250 MHz	"	NEC
X292	2SA733A(P,Q)	"	180 MHz	"	"
X301	2SC458(C)	0.2 W	230 MHz	"	Hitachi
X971	2SC945A(P,Q)	0.25 W	250 MHz	"	NEC

Integrated Circuits

Item No.	Part Number	Rating	Description	
		Pc		Maker
IC101	LA1231N	0.65 W	I.C.	Sanyo
IC102	UPC1161C	0.4 W	"	NEC
IC201	HA1197	0.45 W	"	Hitachi
IC401	NJM4558D-D	0.5 W	"	JRC

Diodes

Item No.	Part Number	Rating	Description	
		Pc		Maker
D101	1S2076-31	0.25 W	Silicon	Hitachi
D102	1S2076-31	"	"	"
D261	1S2076-31	"	"	"
D262	1S2222		Pin Diode	NEC
D263	1S2222		"	"
D264	1S2222		"	"
D265	1S2222		"	"
D266	1S2076-31	0.25 W	Silicon	Hitachi
D267	1S2076-31	"	"	"
D268	1S2076-31	"	"	"
D291	1S2076-31	"	"	"
D292	1S2076-31	"	"	"
D293	1S2076-31	"	"	"
D294	1S2076-31	"	"	"
D301	SR535D		L.E.D.	NEC
D302	SR535D		"	"
D303	SR535D		"	"
D304	SR535D		"	"
D305	SR535D		"	"
D306	SY435D		"	"
D307	1S2076-31	0.25 W	Silicon	Hitachi
D971	SR535D		L.E.D.	NEC
D972	SR535D		"	"
D973	SR535D		"	"
D974	SR535D		"	"
D975	SR535D		"	"
D976	1S2076-31	0.25 W	Silicon	Hitachi

Coils & Transformers

Item No.	Part Number	Rating	Description
L101	EQR2306-013		RF Coil
L102	E03477-035		"
L103	E03522-1R5KY		Choke Coil
L104	E03477-034		RF Coil
L202	E03522-102KY		Choke Coil
L264	EQR1210-001		RF Coil
L265	E03079-38		LW OSC. Coil
L266	EQL2101-103		Inductor
T101	EQT2140-001		I.F. Transformer
T102	EQT2140-002		"
T201	E03613-017		"

Capacitors

Item No.	Part Number	Rating		Description
C101	QCS31HJ-120Z	12 pF	50 V	Ceramic
C102	QCF31HP-103Z	0.01 μF	"	"
C103	QCS31HJ-150Z	15 pF	"	"
C104	QCS31HJ-3R0Z	3 pF	"	"
C105	QCS31HJ-151Z	150 pF	"	"
C106	QCF31HP-103Z	0.01 μF	"	"
C107	QCF31HP-103Z	"	"	"
C108	QCS31HJ-2R0Z	2 pF	"	"
C109	QCT25CH-100Z	10 pF	"	"
C110	QCT25CH-220Z	22 pF	"	"
C111	QCT26RH-7R0	7 pF	"	"
C112	QCT25PH-220Z	22 pF	"	"
C113	QAT3001-005			Trimmer
C114	QCF31HP-103Z	0.01 μF	50 V	Ceramic
C115	QCF31HP-103Z	"	"	"
C116	QCF31HP-223Z	0.022 μF	"	"
C117	QCS31HJ-2R0	2 pF	"	"
C121	QET61HR-105Z	1 μF	"	Electrolytic
C122	QCF31HP-223Z	0.022 μF	"	Ceramic
C123	QCF31HP-473Z	0.047 μF	"	"

Capacitors

Item No.	Part Number	Rating		Description
C124	QET61CR-476Z	47 μF	16 V	Electrolytic
C125	QCF31HP-223Z	0.022 μF	50 V	Ceramic
C126	QCF31HP-473Z	0.047 μF	"	"
C127	QCF31HP-223Z	0.022 μF	"	"
C128	QCF31HP-223Z	"	"	"
C129	QET61HR-105Z	1 μF	"	Electrolytic
C130	QET61ER-106Z	10 μF	25 V	"
C131	QCS31HJ-331Z	330 pF	50 V	Ceramic
C132	QET61HR-105Z	1 μF	"	Electrolytic
C134	QCF31HP-223Z	0.022 μF	"	Ceramic
C141	QFP31HJ-471	470 pF	"	Polypropyrene
C142	QEB51EM-335	3.3 μF	25 V	Low Leak Current Electrolytic
C143	QET61HR-105Z	1 μF	50 V	Electrolytic
C144	QET61HR-105Z	"	"	"
C145	QCF31HP-473Z	0.047 μF	"	Ceramic
C146	QET61CR-476Z	47 μF	16 V	Electrolytic
C147	QCS31HJ-391Z	390 pF	50 V	Ceramic
C148	QCS31HJ-391Z	"	"	"
C149	QET61HR-225Z	2.2 μF	"	Electrolytic
C150	QET61HR-225Z	"	"	"
C151	QFM31HK-103Z	0.01 μF	"	Mylar
C152	QFM31HK-103Z	"	"	"
C155	QFM31HK-473Z	0.047 μF	"	"
C202	QCF31HP-223Z	0.022 μF	"	Ceramic
C203	QCF31HP-223Z	"	"	"
C205	QCF31HP-223Z	"	"	"
C206	QCF31HP-473Z	0.047 μF	"	"
C207	QCF31HP-223Z	0.022 μF	"	"
C209	QFM31HK-333Z	0.033 μF	"	Mylar
C210	QFM31HK-103Z	0.01 μF	"	"
C214	QCS31HJ-121Z	120 pF	"	Ceramic
C216	QET61ER-106Z	10 μF	25 V	Electrolytic
C217	QET61HR-105Z	1 μF	50 V	"
C218	QET61HR-475Z	4.7 μF	"	"
C220	QFM31HK-103Z	0.01 μF	"	Mylar
C221	QCY31HK-102Z	1000 pF	"	Ceramic
C222	QCS31HJ-470Z	47 pF	"	"
C261	QCY31HK-102Z	1000 pF	"	"
C263	QCF31HP-223Z	0.022 μF	"	"
C264	QCY31HK-102Z	1000 pF	"	"
C265	QCS31HJ-221Z	220 pF	"	"
C266	QCF31HP-223Z	0.022 μF	"	"
C267	QCF31HP-473Z	0.047 μF	"	"
C268	QCF31HP-223Z	0.022 μF	"	"
C269	QAT2001-005			Trimmer
C270	QCT25UJ-181Z	180 pF	50 V	Ceramic
C271	QCT26CH-151A	150 pF	"	"
C272	QCT25UJ-150	15 pF	"	"
C273	QCT26CH-271A	270 pF	"	"
C274	QCT25UJ-270	27 pF	"	"
C275	QAT2001-005			Trimmer
C276	QCC31EM-473Z	0.047 μF	25 V	Ceramic
C277	QFM31HK-103Z	0.01 μF	50 V	Mylar
C279	QCF31HP-473Z	0.047 μF	"	Ceramic
C280	QCF31HP-223Z	0.022 μF	"	"
C281	QCF31HP-473Z	0.047 μF	"	"
C282	QET61CR-476Z	47 μF	16 V	Electrolytic
C283	QCS31HJ-100Z	10 pF	50 V	Ceramic
C284	QCF31HP-473Z	0.047 μF	"	"
C292	QET61HR-475	4.7 μF	"	Electrolytic
C401	QET61HR-475Z	"	"	"
C402	QET61HR-475Z	"	"	"
C403	QCS31HJ-101Z	100 pF	"	Ceramic
C404	QCS31HJ-101Z	"	"	"
C405	QCY31HK-182Z	1800 pF	"	"
C406	QCY31HK-182Z	"	"	"
C407	QCY31HK-682Z	6800 pF	"	"
C408	QCY31HK-682Z	"	"	"
C409	QET61HR-225Z	2.2 μF	"	Electrolytic
C410	QET61HR-225Z	"	"	"
C412	QCF31HP-473Z	0.047 μF	"	Ceramic
C441	QCS31HJ-331Z	330 pF	"	"
C442	QCS31HJ-331Z	"	"	"
C443	QFM31HK-183Z	0.018 μF	"	Mylar
C444	QFM31HK-183Z	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R101	QRD141J-101S	100 Ω	1/4 W	Carbon
R102	QRD141J-223S	22 kΩ	"	"
R103	QRD141J-472S	4.7 kΩ	"	"
R104	QRD141J-102S	1 kΩ	"	"
R105	QRD141J-561S	560 Ω	"	"
R106	QRD141J-561S	"	"	"
R107	QRD141J-103S	10 kΩ	"	"
R108	QRD141J-222S	2.2 kΩ	"	"
R109	QRD141J-682S	6.8 kΩ	"	"
R110	QRD141J-470S	47 Ω	"	"
R112	QRD141J-101S	100 Ω	"	"
R113	QRD141J-273S	27 kΩ	"	"
R114	QRD141J-103S	10 kΩ	"	"
R115	QRZ0052-470	47 Ω	"	Fusible ⚠
R116	QRD141J-561S	560 Ω	"	Carbon
R117	QRD141J-102S	1 kΩ	"	"
R118	QRD141J-101S	100 Ω	"	"
R121	QRD141J-331S	330 Ω	"	"
R122	QRD141J-103S	10 kΩ	"	"
R123	QRD141J-333S	33 kΩ	"	"
R124	QRD141J-153S	15 kΩ	"	"
R125	QRD141J-103S	10 kΩ	"	"
R126	QRD141J-472S	4.7 kΩ	"	"
R127	QRD141J-103S	10 kΩ	"	"
R128	QRD141J-222S	2.2 kΩ	"	"
R129	QRD141J-473S	47 kΩ	"	"
R130	QRD141J-123S	12 kΩ	"	"
R131	QRD141J-273S	27 kΩ	"	"
R132	QRD141J-123S	12 kΩ	"	"
R133	QRD141J-561S	560 Ω	"	"
R134	QRZ0052-330	33 Ω	"	Fusible ⚠
R135	QRZ0052-470	47 Ω	"	" ⚠
R136	QRD141J-563S	56 kΩ	"	Carbon
R141	QRD141J-683S	68 kΩ	"	"
R142	QRD141J-104S	100 kΩ	"	"
R143	QVP8A0B-053M	5 kΩ		Variable (Free Run)
R144	QRD141J-163S	16 kΩ	1/4 W	Carbon
R145	QRD141J-102S	1 kΩ	"	"
R146	QRD141J-363S	36 kΩ	"	"
R147	QRD141J-363S	"	"	"
R148	QVP8A0B-055M	500 kΩ		Variable (Separation)
R149	QRD141J-913S	91 kΩ	1/4 W	Carbon
R150	QRD141J-913S	"	"	"
R151	QRD141J-332S	3.3 kΩ	"	"
R152	QRD141J-332S	"	"	"
R153	QRD141J-103S	10 kΩ	"	"
R154	QRD141J-103S	"	"	"
R199	QRD129J-180	18 Ω	1/2 W	" ⚠
R201	QRD141J-470S	47 Ω	1/4 W	"
R202	QRD141J-152S	1.5 kΩ	"	"
R203	QRD141J-151S	150 Ω	"	"
R204	QRD141J-101S	100 Ω	"	"
R205	QRD141J-103S	10 kΩ	"	"
R206	QRD141J-103S	"	"	"
R208	QRD141J-222S	2.2 kΩ	"	"
R210	QRD141J-681S	680 Ω	"	"
R212	QRD141J-151S	150 Ω	"	"
R222	QRD141J-221S	220 Ω	"	"
R261	QRD141J-124S	120 kΩ	"	"
R262	QRD141J-561S	560 Ω	"	"
R263	QRD141J-102S	1 kΩ	"	"
R264	QRD141J-562S	5.6 kΩ	"	"
R265	QRD141J-562S	"	"	"
R266	QRD141J-471S	470 Ω	"	"
R268	QRD141J-122S	1.2 kΩ	"	"
R269	QRD141J-471S	470 Ω	"	"
R270	QRD141J-122S	1.2 kΩ	"	"
R271	QRD141J-563S	56 kΩ	"	"
R272	QRD141J-471S	470 Ω	"	"
R273	QRD141J-472S	4.7 kΩ	"	"
R274	QRD141J-331S	330 Ω	"	"
R275	QRD141J-472S	4.7 kΩ	"	"
R276	QRD141J-472S	"	"	"
R277	QRD141J-152S	1.5 kΩ	"	"
R278	QRD141J-102S	1 kΩ	"	"

Resistors

Item No.	Part Number	Rating		Description
R279	QRD141J-331S	330 Ω	1/4 W	Carbon
R280	QRD141J-105S	1 MΩ	"	"
R281	QRD141J-561S	560 Ω	"	"
R291	QRD141J-103S	10 kΩ	"	"
R292	QRD141J-105S	1 MΩ	"	"
R293	QRD141J-102S	1 kΩ	"	"
R294	QRD141J-103S	10 kΩ	"	"
R301	QRD141J-561S	560 Ω	"	"
R302	QRD141J-221S	220 Ω	"	"
R303	QRD141J-181S	180 Ω	"	"
R304	QRD141J-151S	150 Ω	"	"
R305	QRD141J-222S	2.2 kΩ	"	"
R306	QRD141J-241S	240 Ω	"	"
R307	QRD141J-241S	"	"	"
R308	QRD141J-222S	2.2 kΩ	"	"
R401	QRD141J-222S	"	"	"
R402	QRD141J-222S	"	"	"
R403	QRD141J-563S	56 kΩ	"	"
R404	QRD141J-563S	"	"	"
R407	QRD141J-102S	1 kΩ	"	"
R408	QRD141J-102S	"	"	"
R409	QRD141J-393S	39 kΩ	"	"
R410	QRD141J-393S	"	"	"
R411	QRD141J-474S	470 kΩ	"	"
R412	QRD141J-474S	"	"	"
R415	QRD141J-104S	100 kΩ	"	"
R416	QRD141J-104S	"	"	"
R441	QRD141J-332S	3.3 kΩ	"	"
R442	QRD141J-332S	"	"	"
R443	QRD141J-223S	22 kΩ	"	"
R444	QRD141J-223S	"	"	"
R445	QRD141J-564S	560 kΩ	"	"
R446	QRD141J-564S	"	"	"
R447	QVZ1637-004	250 kΩ	1/16 W	Variable (Volume)
R451	QRD141J-683S	68 kΩ	1/4 W	Carbon
R452	QRD141J-683S	"	"	"
R461	QVF0A2W-6F5	250 kΩ		Variable (Balance)
R971	QRD141J-561S	560 Ω	1/4 W	Carbon
R972	QRD141J-221S	220 Ω	"	"
R973	QRD141J-181S	180 Ω	"	"
R974	QRD141J-151S	150 Ω	"	"
R975	QRD141J-101S	100 Ω	"	"
R976	QRD141J-563S	56 kΩ	"	"
R977	QRD141J-560S	56 Ω	"	"
R978	QRD141J-221S	220 Ω	"	"
R979	QRD141J-221S	"	"	"

Others

Item No.	Part Number	Rating	Description
PL-2	QLP3201-009		Pilot Lamp
PL-3	QLP3201-009		"
PL-4	QLP3201-009		"
PL-5	QLP3201-009		"
PL-6	QLP3201-009		"
PL-7	QLP3201-009		"
CF101	E03357-004		Ceramic Filter
CF102	E03357-004		"
CF201	E03613-019		"
	E03572-016		Antenna Terminal
	E67764-002		Terminal Ass'y
	EWR33A-20NN		Flat Wire
	EWR33A-35NN		"
	EWR35A-25NN		"
	EWR37A-20NN		"
	E03591-41F		Pin Jack
	E301260-001		LED Holder
	E301560-001		Lamp Holder
	E67764-003		R. Terminal
	E67764-004		R. Terminal
	E68238-001		Shield Cover
	QAA2234-002		V. Capacitor
	QSP0039-004		Push SW.
	QSP0268-052		"

6-(2) TAP-290 Main Amp., Power Supply and Other Function Split P.C. Board Ass'y

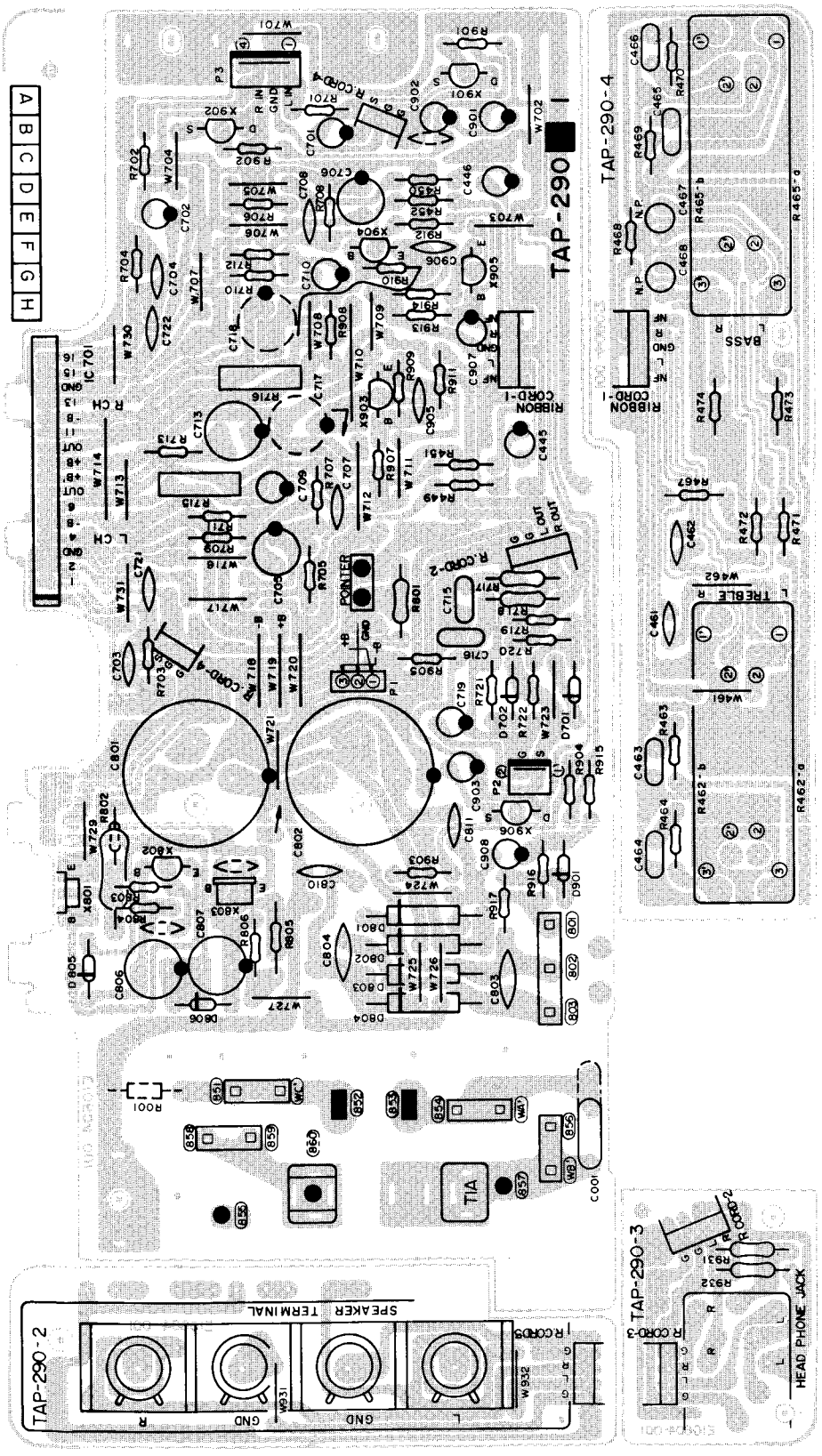


Fig. 9

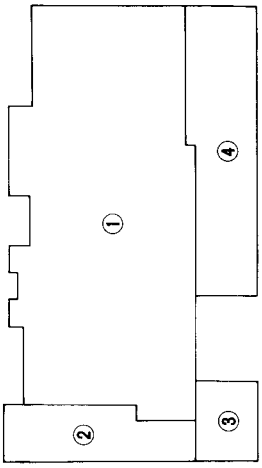


Fig. 10

Note:
The symbols 赤, 黒, 白 on P.C. Board surface are for factory process only.

P.C. Board Location

① TAP-290□-1: Main Amp. and Power Supply P.C. Board Ass'y
② TAP-290-2: Speaker Terminal P.C. Board Ass'y
③ TAP-290-3: Headphone Jack P.C. Board Ass'y
④ TAP-290-4: Tone Control P.C. Board Ass'y

Transistors

Item No.	Part Number	Rating		Description	Maker
		Pc	fT		
X801	2SD313V(D,E)	30 W	8 MHz	Silicon	Sanyo
X802	2SC945A(P,Q)	0.25 W	250 MHz	"	NEC
X803	2SB507V(D,E)	30 W	8 MHz	"	Sanyo
X901	2SK105(F)	0.25 W		F.E.T.	NEC
X902	2SK105(F)	"		"	"
X903	2SC1775AV(F)	0.2 W	200 MHz	Silicon	Hitachi
X904	2SC1775AV(F)	"	"	"	"
X905	2SA872AV(E)	0.3 W	120 MHz	"	"
X906	2SK105(F)	0.25 W		F.E.T.	NEC

Integrated Circuits

Item No.	Part Number	Rating	Description	
		Pc		Maker
IC701	STK465A	Po 30 W/8 Ω	I.C.	Sanyo

Diodes

Item No.	Part Number	Rating	Description	
		Pc		Maker
D701	1S2076-31	0.25 W	Silicon	Hitachi
D702	1S2076-31	"	"	"
D801	S3V20F		"	Shindengen
D802	S3V20F		"	"
D803	S3V20F		"	"
D804	S3V20F		"	"
D805	RD13EB3		Silicon (Zener)	NEC
D806	RD13EB3		"	"
D901	1S2076-31	0.25 W	Silicon	Hitachi

Capacitors

Item No.	Part Number	Rating		Description
C445	QET61HR-475Z	4.7 μF	50 V	Electrolytic
C446	QET61HR-475Z	"	"	"
C461	QCY31HK-182Z	1800 pF	"	Ceramic
C462	QCY31HK-182Z	"	"	"
C463	QFM31HK-183Z	0.018 μF	"	Mylar
C464	QFM31HK-183Z	"	"	"
C465	QFM31HK-333Z	0.033 μF	"	"
C466	QFM31HK-333Z	"	"	"
C467	QEZ0046-224	0.22 μF	"	Electrolytic
C468	QEZ0046-224	"	"	"
C701	QET61HR-225Z	2.2 μF	"	"
C702	QET61HR-225Z	"	"	"
C703	QCS31HJ-101Z	100 pF	"	Ceramic
C704	QCS31HJ-101Z	"	"	"
C705	QET61CR-107Z	100 μF	16 V	Electrolytic
C706	QET61CR-107Z	"	"	"
C707	QCS31HJ-100Z	10 pF	50 V	Ceramic
C708	QCS31HJ-100Z	"	"	"
C709	QET61HR-226Z	22 μF	"	Electrolytic
C710	QET61HR-226Z	"	"	"
C713	QET61VR-107Z	100 μF	35 V	"
C715	QFM31HK-473Z	0.047 μF	50 V	Mylar
C716	QFM31HK-473Z	"	"	"
C719	QET61HR-475Z	4.7 μF	"	Electrolytic
C721	QCS31HJ-471Z	470 pF	"	Ceramic
C722	QCS31HJ-471Z	"	"	"
C801	QEW91VA-688E	6800 μF	35 V	Electrolytic
C802	QEW91VA-688E	"	"	"
C803	QCE22HP-103	0.01 μF	500 V	Ceramic
C804	QCE22HP-103	"	"	"
C806	QET61CR-227Z	220 μF	16 V	Electrolytic
C807	QET61CR-227Z	"	"	"
C808	QCF31HP-103Z	0.01 μF	50 V	Ceramic
C809	QCF31HP-103Z	"	"	"
C810	QCF31HP-473Z	0.047 μF	"	"
C811	QCF31HP-473Z	"	"	"
C901	QET61AR-476Z	47 μF	10 V	Electrolytic
C902	QET61AR-476Z	"	"	"
C903	QET61HR-226Z	22 μF	50 V	"
C905	QCF31HP-223Z	0.022 μF	"	Ceramic
C906	QCF31HP-223Z	"	"	"
C907	QET61HR-226Z	22 μF	"	Electrolytic
C908	QET61HR-105Z	1 μF	"	"

Resistors

Item No.	Part Number	Rating		Description
R449	QRD141J-562S	5.6 kΩ	1/4 W	Carbon
R450	QRD141J-562S	"	"	"
R451	QRD141J-472S	4.7 kΩ	"	"
R452	QRD141J-472S	"	"	"
R462	QVT1C6C-015	100 kΩ		Variable (Bass)
R463	QRD141J-681S	680 Ω	1/4 W	Carbon
R464	QRD141J-681S	"	"	"
R465	QVT1C6C-015	100 kΩ		Variable (Treble)
R467	QRD141J-123S	12 kΩ	1/4 W	Carbon
R468	QRD141J-123S	"	"	"
R469	QRD141J-823S	82 kΩ	"	"
R470	QRD141J-823S	"	"	"
R471	QRD141J-182S	1.8 kΩ	"	"
R472	QRD141J-182S	"	"	"
R473	QRD141J-182S	"	"	"
R474	QRD141J-182S	"	"	"
R701	QRD141J-222S	2.2 kΩ	"	"
R702	QRD141J-222S	"	"	"
R703	QRD141J-563S	56 kΩ	"	"
R704	QRD141J-563S	"	"	"
R705	QRD141J-561S	560 Ω	"	"
R706	QRD141J-561S	"	"	"
R707	QRD141J-683S	68 kΩ	"	"
R708	QRD141J-683S	"	"	"
R709	QRD141J-332S	3.3 kΩ	"	"
R710	QRD141J-332S	"	"	"
R711	QRD141J-122S	1.2 kΩ	"	"
R712	QRD141J-122S	"	"	"
R713	QRD149J-470S	47 Ω	"	" ⚠
R715	QRM024K-R47	0.47 Ω	2 W	Metal Plate ⚠
R716	QRM024K-R47	"	"	" ⚠
R717	QRD129J-4R7	4.7 Ω	1/2 W	Carbon ⚠
R718	QRD129J-4R7	"	"	" ⚠
R719	QRD141J-222S	2.2 kΩ	1/4 W	"
R720	QRD141J-222S	"	"	"
R721	QRD141J-390S	39 Ω	"	"
R801	QRD129J-121S	120 Ω	1/2 W	Carbon ⚠
R802	QRD149J-2R2S	2.2 Ω	1/4 W	" ⚠
R803	QRD141J-152S	1.5 kΩ	"	Carbon
R804	QRD141J-272S	2.7 kΩ	"	"
R805	QRD149J-470S	47 Ω	"	" ⚠
R806	QRD141J-272S	2.7 kΩ	"	"
R901	QRD141J-223S	22 kΩ	"	"
R902	QRD141J-223S	"	"	"
R903	QRD141J-562S	5.6 kΩ	"	"
R904	QRD141J-223S	22 kΩ	"	"
R905	QRD141J-104S	100 kΩ	"	"
R907	QRD141J-392S	3.9 kΩ	"	"
R908	QRD141J-392S	"	"	"
R909	QRD141J-102S	1 kΩ	"	"
R910	QRD141J-102S	"	"	"
R911	QRD141J-123S	12 kΩ	"	"
R912	QRD141J-123S	"	"	"
R913	QRD141J-103S	10 kΩ	"	"
R914	QRD141J-332S	3.3 kΩ	"	"
R915	QRD141J-104S	100 kΩ	"	"
R916	QRD141J-223S	22 kΩ	"	"
R917	QRD141J-102S	1 kΩ	"	"
R931	QRD129J-181	180 Ω	1/2 W	" ⚠
R932	QRD129J-181	"	"	" ⚠

Others

Item No.	Part Number	Rating	Description
	EWS013-069		SKT Wire Ass'y
	E03572-007EM		SPK Terminal
	E301562-001		Heat Sink
	E301563-001		C.B. Holder
	E301564-001		C.B. Holder
	E43727-002		Tab
	E48965-002		Fuse Clip
	E65508-002		Tab
	QMS6312-010		H. Phone Jack
	QMV5005-002		2P Plug Ass'y
	QMV5005-004		4P Plug Ass'y
	SBSB3010Z		T. Screw
	SBSB3012Z		"

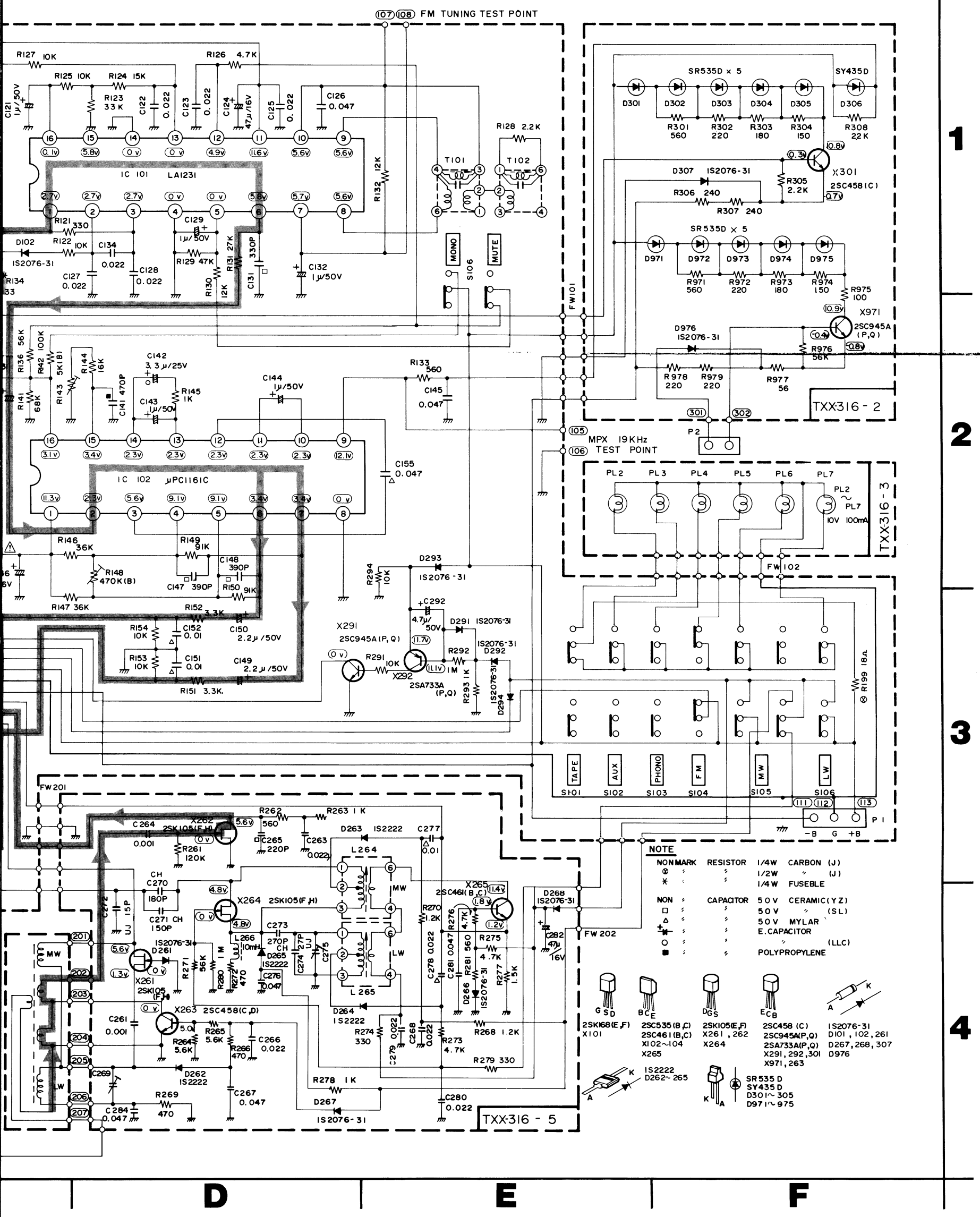
7. AU-10XL Schematic Diagram

Printed Circuit Board Ass'y Locations

P.C. Board Ass'y	Description	Page
TXX-316	FM/AM Tuner and Equalizer Amp. P.C. Board Ass'y	7
TAP-290	Main Amp., Power Supply and Other Functions Split P.C. Board Ass'y	10

Notes:

1. Voltage values in ⬭ are positive.
2. Voltage values in ⬭ are negative.
3. —— indicates positive B power supply.
4. —— indicates negative B power supply.
5. ▓▓ indicates signal path.
6. When replacing the parts in the darkened area (▒▒) and those marked with ⚠ , be sure to use the designated parts to ensure safety.
7. Parts in red indicate transistors or ICs.
8. This is the standard circuit diagram. The design and contents are subject to notice.

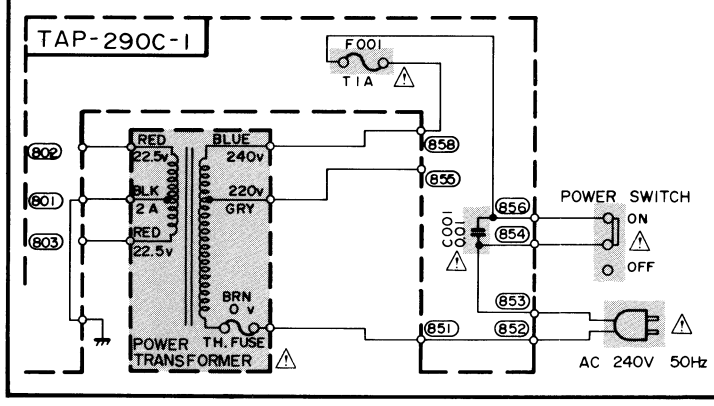


7. Parts in red indicate transistors or ICs.
8. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

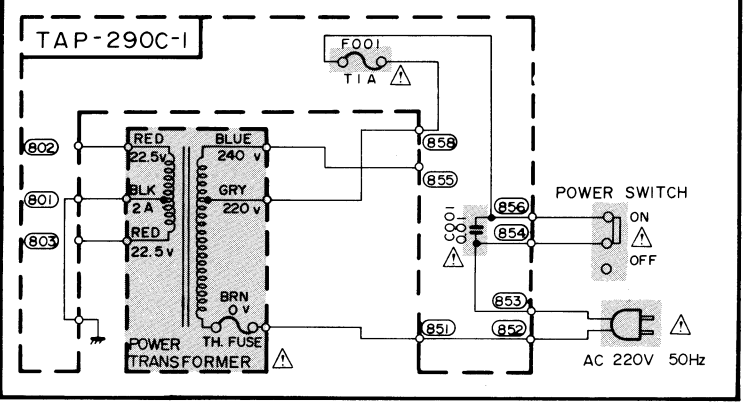
) and
d parts

AC POWER SUPPLY BLOCK

(BS) FOR U.K. AC 240V 50Hz



(E) FOR EUROPE AC 220V 50Hz



USING PARTS

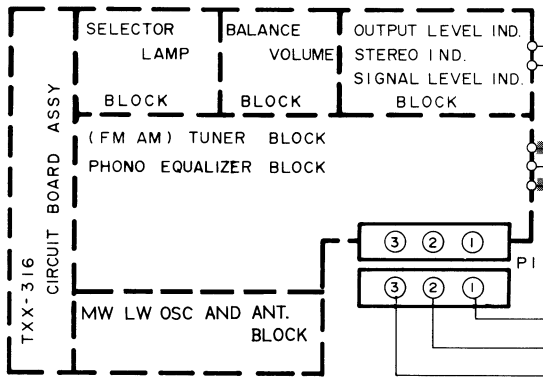
(REFFER TO SERVICE MANUAL)

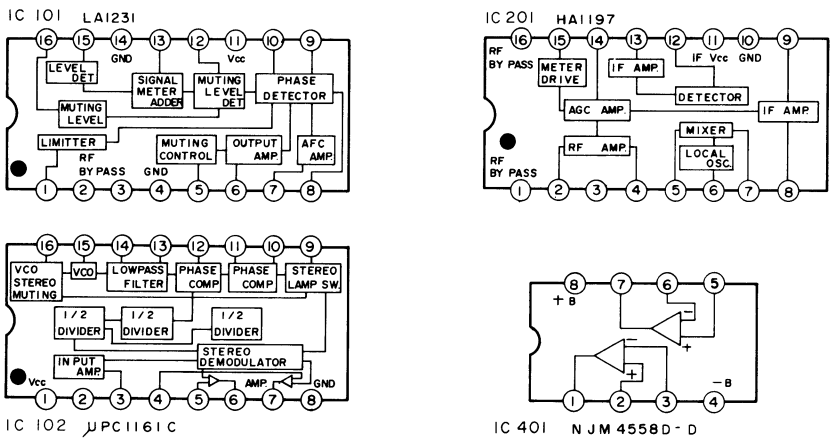
- RESISTORS

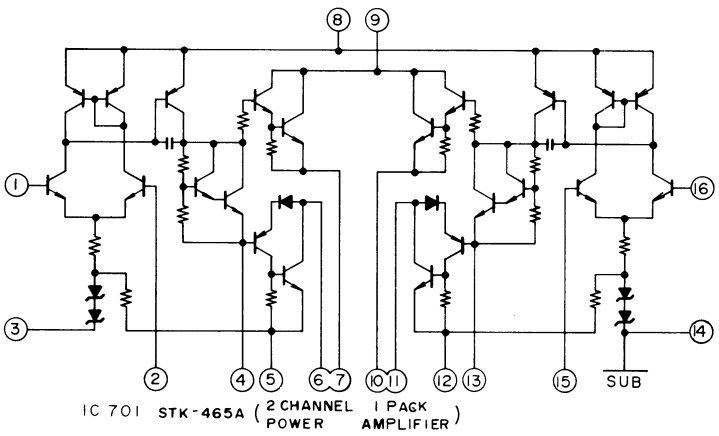
  UFCR : UNINFLAMMABLE CARBON RESISTOR
  UFOR : UNINFLAMMABLE OXIDE METAL RESISTOR
  UFMR : UNINFLAMMABLE METAL RESISTOR
  OTHERS : CABON RESISTOR (1/4WATTS)

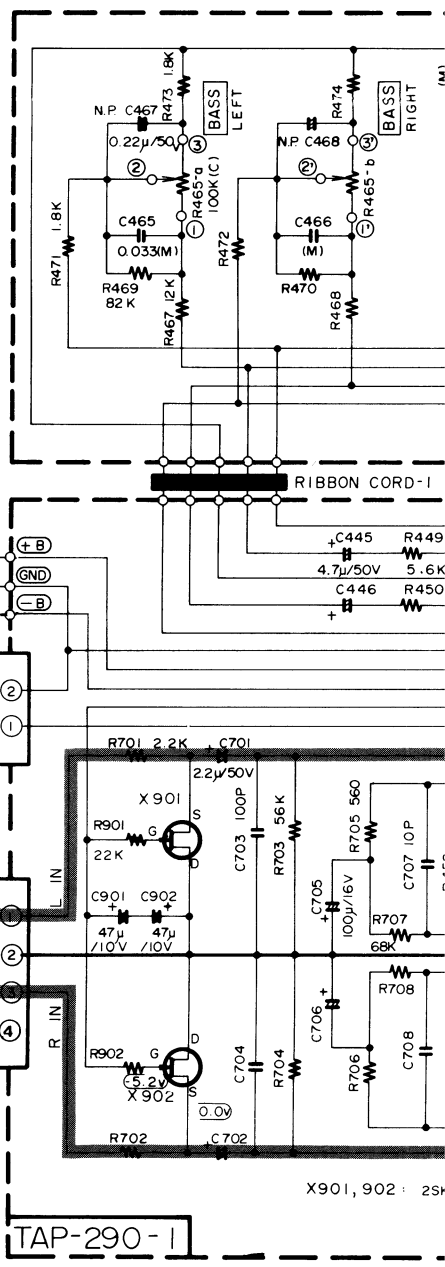
- CAPACITOR

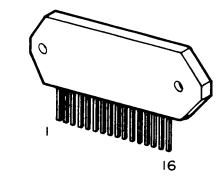
  M : MYLAR CAPACITOR
  N.P. : NON POLARIZED ELECTROLYTIC CAPACITOR
  OTHERS : ELECTROLYTIC CAPACITOR OR CERAMIC CAPACITOR


TXX-316 CIRCUIT BOARD ASSY
SELECTOR LAMP BLOCK
BALANCE VOLUME BLOCK
OUTPUT LEVEL IND. STEREO IND. SIGNAL LEVEL IND. BLOCK
(FM AM) TUNER BLOCK
PHONO EQUALIZER BLOCK
MW LW OSC AND ANT. BLOCK
P1

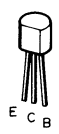








IC701 STK-465A



X802 2SC945A (P,Q)
X903, 904 2SC1775AV (F)
X905 2SA872AV (E)

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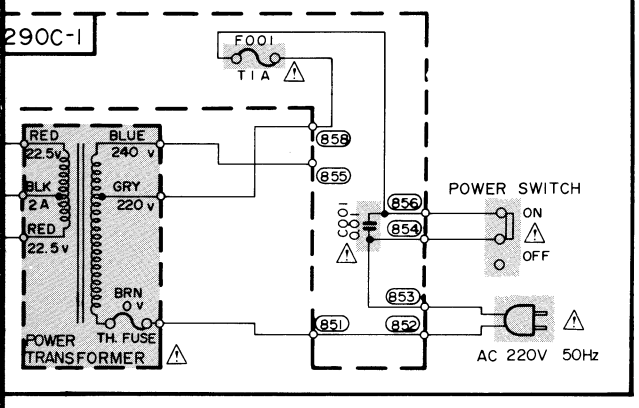
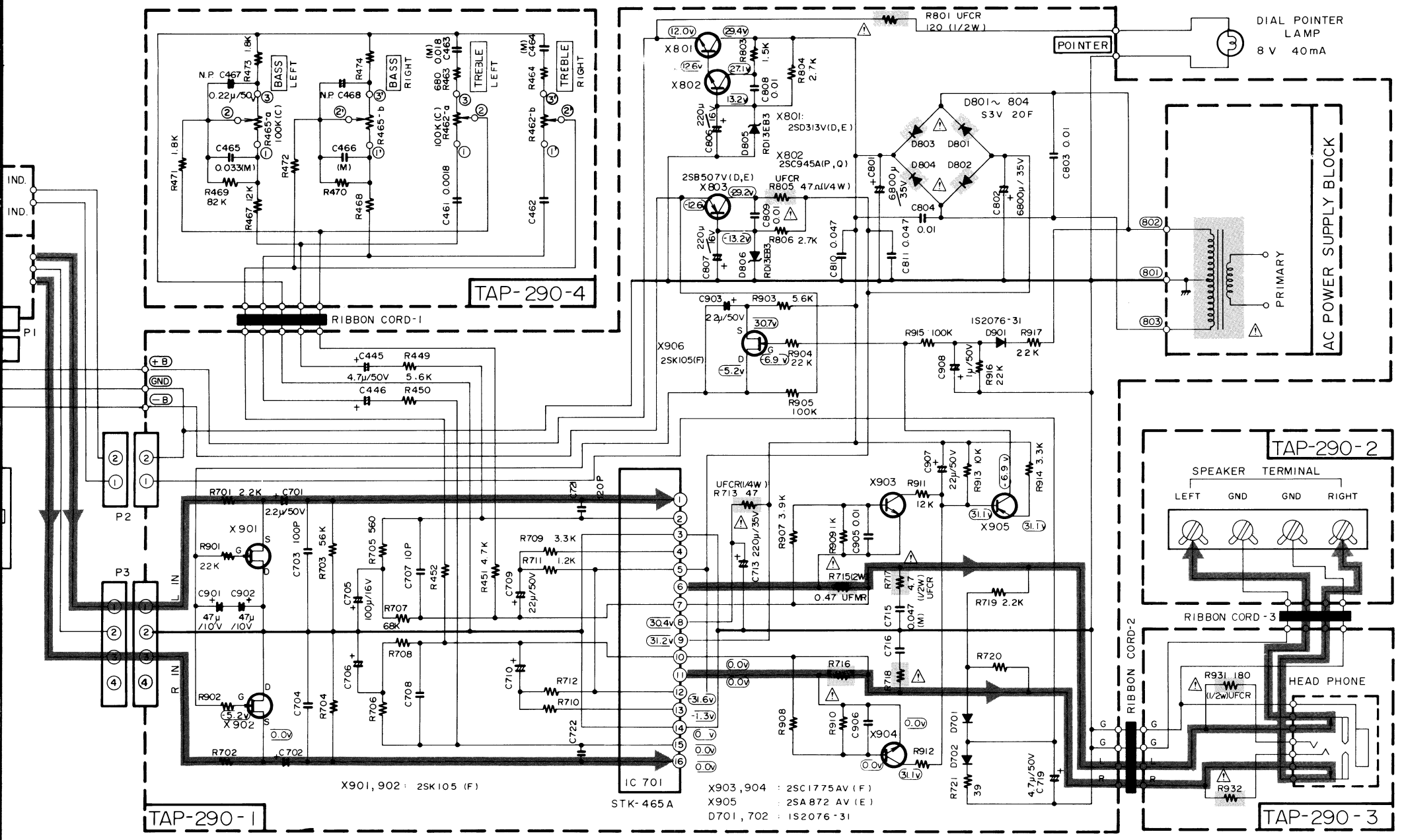
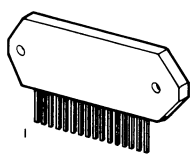
6. When replacing the parts in the darkened area (▒) and those marked with ⚠ , be sure to use the designated parts to ensure safety.

OR EUROPE AC 220V 50Hz

290C-1



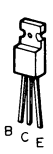




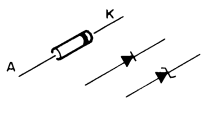
IC 701
STK-465A

X802
2SC945A (P,Q)
X903, 904
2SC1775AV (F)
X905
2SA872AV (E)

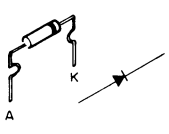
X901, 902, 906
2SK105 (F)



X801
2SD313V (D,E)
X803
2SB507V(D,E)



D701, 702, 901
IS2076-31
D805, 806
RD13EB3



D801~804
S3V20F

VOLTAGES

THESE VOLTAGES ARE MEASURED WITH DC.V.T.V.M AT NONSIGNAL INPUT.

C D E F

1 2 3 4

tage values in ⬭ are positive.
tage values in ⬭ are negative.
—indicates positive B power supply.
—indicates negative B power supply.
indicates signal path.
en replacing the parts in the darkened area ( ) and se marked with ⚠ , be sure to use the designated parts ensure safety.

7. Parts in red indicate transistors or ICs.
8. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

8. Packing Materials and Part Numbers

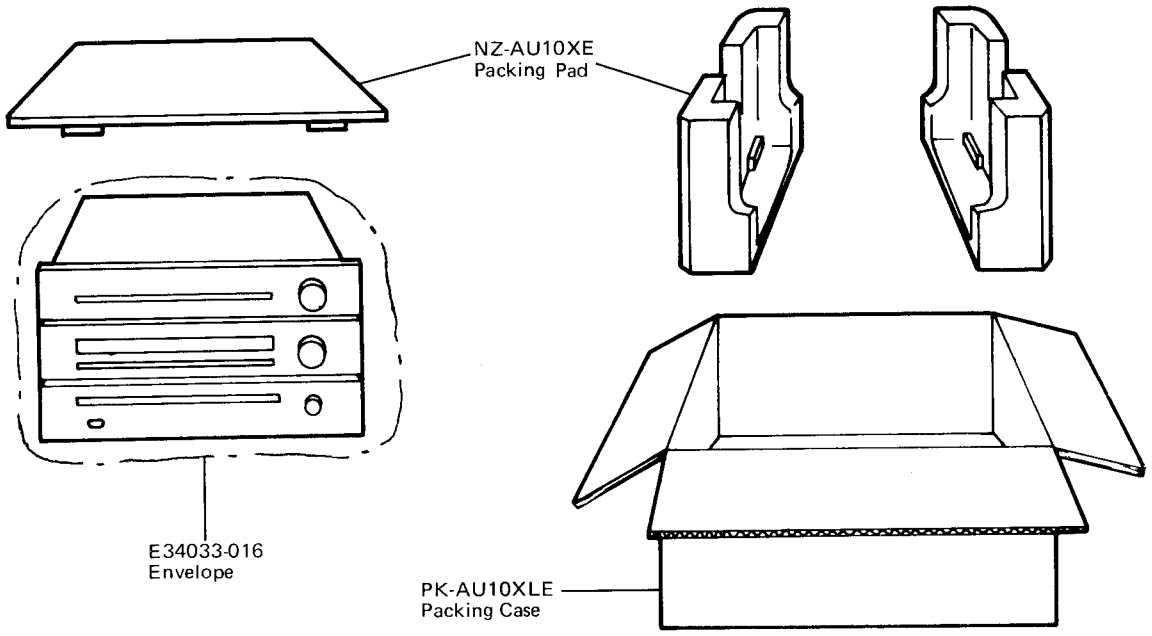


Fig. 11

9. Accessories List

Item No.	Part Number	Description	Q'ty
1	E30580-889A	Instruction Book	1
2	BT20013C	Warranty Card (for U.K. only)	1
3	E03614-004	FM Antenna	1
4	E41202-2	Envelope for Instruction Book	1